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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/519,805

12/13/2005

Brad St. Croix

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BANNER & WITCOFF, LTD.

1100-13th STREET, N.W.

SUITE 1200

WASHINGTON, DC 20005-4051

EXAMINER

NATARAJAN, MEERA

ART UNIT

PAPER NUMBER

1643

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/519,805	<b>Applicant(s)</b> ST. CROIX ET AL.	
	<b>Examiner</b> Meera Natarajan	<b>Art Unit</b> 1643	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 December 2005.
- 2a) ☐ This action is **FINAL**.      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-25 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Election/Restrictions*

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1, drawn to a method for identification of a ligand involved in endothelial cell regulation comprising contacting a test compound with a human TEM protein.

Group II, claim(s) 2-7, drawn to a method of inhibiting neoangiogenesis; comprising administering to a subject in need thereof an effective amount of an isolated molecule comprising an antibody variable region which specifically binds to a TEM protein.

Group III, claim(s) 8, drawn to a method of screening for neoangiogenesis in a patient, comprising contacting a body fluid collected from the patient with a molecule comprising an antibody variable region which specifically binds to a TEM protein.

Group IV, claim(s) 9, drawn to a method of promoting neoangiogenesis in a patient, comprising administering to a patient in need of neoangiogenesis a TEM protein.

Group V, claim(s) 10, drawn to a method of promoting neoangiogenesis in a patient comprising administering to a patient in need of neoangiogenesis a nucleic acid molecule encoding a TEM protein.

Group VI, claim(s) 11, drawn to a method of screening for neoangiogenesis in a patient comprising detecting a TEM protein.

Group VII, claim(s) 12, drawn to drawn to a method of screening for neoangiogenesis in a patient comprising detecting a nucleic acid encoding a TEM protein.

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Group VIII, claim(s) 13-15, drawn to a method of identifying candidate drugs for treating tumors or promoting wound healing comprising contacting cells which express one or more TEM genes with a test compound and determining expression of said TEM gene in said cells.

Group IX, claim(s) 16-18, drawn to a method of identifying candidate drugs for treating tumors or promoting wound healing comprising contacting cells which express one or more TEM proteins with a test compound and determining amount of expression of said TEM protein in said cells.

Group X, claim(s) 19-21, drawn to a method of identifying candidate drugs for treating tumors or promoting wound healing comprising contacting cells which express one or more TEM proteins with a test compound and determining activity of said TEM protein in said cells.

Group XI, claim(s) 22, drawn to a method to identify candidate drugs for treating patients bearing tumors or for promoting wound healing comprising contacting a test compound with recombinant host cells which are transfected with an expression construct which encodes one or more TEM proteins and determining proliferation of said cells.

Group XII, claim(s) 23-24, drawn to a method for identifying endothelial cells, comprising contacting a population of cells with one or more antibodies which bind specifically to a TEM protein and detecting cells in the population which have bound to said antibodies.

Group XIII, claim(s) 25, drawn to a method for identifying endothelial cells comprising contacting with nucleic acids of a population of cells one or more nucleic acid hybridization probes which are complementary to a TEM gene nucleic acid and detecting nucleic acids which have specifically hybridized to said nucleic acid hybridization probes.

2. The inventions listed as Groups I-XIII do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: Claim 11 is drawn to a method of screening for neoangiogenesis in a patient comprising detecting a TEM protein. In view of this St. Croix et al. (WO200210217 – February 2002) teaches a method of identifying TEM protein transcripts in normal endothelium versus neoplastic

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tissues from a patient. The results show 46 transcripts that were expressed at 10-fold or higher levels in tumor vessels as compared to normal tissue. Therefore the technical feature recited in Claim 11 is not special. Accordingly the groups are not so linked as to form a single general concept.

3. This application contains claims directed to more than one species of the generic invention. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

The species are as follows:

If any group is elected Applicant must elect one species of TEM protein from the group listed in claims 1, 2, 8, 9, 10, 11, 12, 13, 16, 19, 22, 23, and 25.

Applicant is required, in reply to this action, to elect a single species to which the claims shall be restricted if no generic claim is finally held to be allowable. The species are independent or distinct because they have different structures and functions. The reply must also identify the claims readable on the elected species, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered non-responsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

4. The species listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, the species lack the same or corresponding special technical features for the following reasons: the species all have different structures and functions.

5. Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention or species may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

Should applicant traverse on the ground that the inventions or species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions or species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C.103(a) of the other invention.

6. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim

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remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Meera Natarajan whose telephone number is 571-270-3058. The examiner can normally be reached on Monday-Thursday, 8:30AM-6:00PM, ALT. Friday. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Helms can be reached on 571-272-0832. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MN



LARRY R. HELMS, PH.D.  
SUPERVISORY PATENT EXAMINER